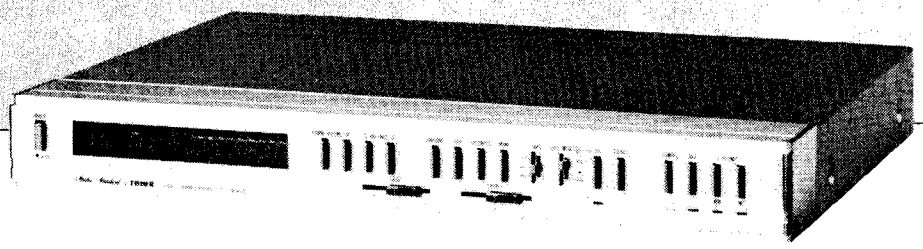
SERVICE MANUAL

# FISHER

# CC 9000

## PRE AMPLIFIER



*THE FIRST NAME IN HIGH FIDELITY*

## SPECIFICATIONS

| | |
|---|---|
| Input Sensitivity/Impedance for 1V Output | |
| Phono MC | 250 μV/100 ohms |
| Phono MM | 2.5 mV/47 k ohms |
| Tuner | 150 mV/47 k ohms |
| Aux | 150 mV/47 k ohms |
| Tape 1 | 150 mV/47 k ohms |
| Tape 2 | 150 mV/47 k ohms |
| Output Level/Impedance | 1 V/ 5 k ohms |
| T.H.D. (1 kHz) | 20 — 20 kHz |
| Frequency Responce | |
| Phono | RIAA ±0.5 dB |
| Aux (20 — 20 kHz) | ±0.5 dB |

| | |
|---|---|
| Tone Control Effect | |
| Treble at 10 kHz | ±10 dB |
| Bass at 100 Hz | ±10 dB |
| Loudness Control Effect (−30 dB) | |
| at 10 kHz | +4 dB |
| at 100 Hz | +8 dB |
| Signal to Noise Ratio (1V Output, Input shorted, IHF weighted) | |
| Phono MC | 68 dB |
| Phono MM | 74 dB |
| Aux | 90 dB |
| Filter Effect | |
| High Filter −6 dB/Oct. | fc = 8 kHz |
| Subsonic Filter −12 dB/Oct. | fc = 40 Hz |

## ELECTRICAL ADJUSTMENT

1. Adjust SVR3 for 7.2V between TP3 and GND at a maximum of volume control.
2. Adjust SVR2 for 3.3V between TP2 and GND at a maximum of volume control.
3. Adjust SVR1 for 6.7V between TP1 and GND at a maximum of right balance control.

## PARTS LIST

| Key No. | Ref.No. | PARTS No. | DESCRIPTION | Q'ty |
|---|---|---|---|---|
| | | | **PACKAGE PARTS** | |
| | | R-4075219 | Individual carton | 1 |
| | | R-4770191 | Caution label | 1 |
| | | | Polyethylene bag, 100x240, AC coad | 1 |
| | | R-357503 | Polythylene bag, Set | 1 |
| | | R-4774608 | Instruction book | 1 |
| | | | Polyethylene bag, 240x320, Instruction book | 1 |
| | | R-4773695 | Guarantee card | 1 |
| | | R-4774720 | Caution label, Fuse | 1 |
| | | | Polyethylene bag, 50x50, Caution label | 1 |
| | | R-4172783A | Styro-foam cushion, Set right | 1 |
| | | R-4172784A | Styro-foam cushion, Set left | 1 |
| | | R-4075316 | Protector, Set | 2 |
| | | | Polyethylene bag, 100x160, Accessory parts | 1 |
| | | | **ACCESSORY PARTS** | |
| | | R-S37040-3 | Cord assembly | 1 |
| | | | **CABINET APPEARANCE PARTS** | |
| 1 | | R-1272532-LA | Top case, Silver } | 1 |
| 1 | | R-1272532-MA | Top case, Black } | 1 |
| | | | Screw, Bind Hd., 4x6 S-tight | 4 |
| 2 | | R-A75446 | Panel assembly, Silver } | 1 |
| 2 | | R-A75446-L | Panel assembly, Black } | 1 |
| 3 | | R-277727 | Panel, Silver } | 1 |
| 3 | | R-277727-L | Panel, Black } | 1 |
| | | | Tap. screw, 2x5 | 4 |
| 4 | | R-3973921 | Fix plastic board, Silver, Panel right } | 1 |
| 4 | | R-3973921-L | Fix plastic board, Black, Panel right } | 1 |
| 5 | | R-3973932 | Fix plastic board, Silver, Panel left } | 1 |
| 5 | | R-3973932-L | Fix plastic board, Black, Panel left } | 1 |
| | | | Screw, Pan Hd., 3x6 B-tight | 4 |
| | | | External tooth lock washer, Metal, M3 | 4 |
| 6 | | R-A75447 | Fix plastic board assembly, Silver } | 1 |
| 6 | | R-A75447-L | Fix plastic board assembly, Black } | 1 |
| | | | Screw, Pan Hd., 2x8 S-tight | 11 |
| 7 | | R-1272786 | Metal bracket, Cover | 1 |
| | | | Tap Screw, Oval Hd., 3x8 | 2 |
| 8 | | R-3973920 | Knob, Silver, Power } | 1 |
| 8 | | R-3973920-L | Knob, Black, Power } | 1 |
| 9 | | R-3973822 | Knob, Silver, Volume, Balance, Subsonic, Higu Loudness, Mono, Source, Tuner, AUX, Phono, Tape moniter on } | 14 |
| 9 | | R-3973822-L | Knob, Black | |
| 10 | | R-3973953 | Knob, Bass, Treble, Silver } | 2 |
| 10 | | R-3973953-L | Knob, Bass, Treble, Black } | 2 |
| 11 | | R-3974001 | Spacer, Bass, Treble | 2 |
| 12 | | R-3973954 | Knob, Silver, Copy, Tape moniter } | 2 |
| 12 | | R-3973954-L | Knob, Black, Copy, Tape moniter } | 2 |
| | | | **CHASSIS MECHANICAL PARTS** | |
| 13 | | R-3973944 | Fix plastic board, Slide variable R. | 2 |
| 14 | | R-3973940 | Fix plastic board, Tact switch, Keyboard P.C.B. | 6 |
| 15 | | R-3973942 | Fix plastic board, Push switch, Keyboard P.C.B. | 4 |
| 16 | | R-3973941 | Fix plastic board, Push switch, Function P.C.B. | 4 |
| 17 | | R-1272802 | Bottom case | 1 |
| | | | Screw, Pan Hd., 3x6 B-tight, Panel | 3 |
| 18 | | R-S872150 | Foot base assembly | 4 |
| | | | Screw, Flat Hd., 3x6 S-tight | 4 |
| 19 | | R-1272803 | Bottom cover | 1 |
| | | | Screw, Pan Hd. with Washer, 3x6 B-tight | 9 |
| 20 | | R-1272582 | Metal bracket, Power switch | 1 |
| | | | Screw, Pan Hd., 3x6 B-tight | 2 |
| | | | Screw, Pan Hd., 3x6 | 2 |
| 21 | | R-1272790 | Lever, Power switch | 1 |
| | | R-147047 | Special screw | 1 |
| 22 | | R-1272781 | Chassis, Front | 1 |
| | | | Screw, Pan Hd., 3x6 B-tight | 10 |
| 23 | | R-1272866 | Metal bracket, Front chassis | 3 |
| | | | Screw, Pan Hd., 3x6 B-tight | 3 |
| 24 | | R-1272559A | Chassis, Center | 1 |
| | | | Screw, Pan Hd., 3x6 B-tight | 3 |
| | | | Screw, Pan Hd., 3x6 B-tight | 1 |

NOTES : 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

## PARTS LIST

| Key No. | Ref.No. | PARTS No. | DESCRIPTION | Q'ty |
|---|---|---|---|---|
| 25 | | R-1272782 | Chassis, Rear | 1 |
| | | | Screw, Pan Hd., 3X6 B-tight | 3 |
| | | | Screw, Pan Hd., 3x8 B-tight | 6 |
| | | | Screw, Bind Hd., 3x6 B-tight | 4 |
| 26 | | R-1570437 | Earth terminal | 1 |
| | | | Flat washer, 3x8x0.5t | 1 |
| 27 | | R-1272561 | Metal bracket | 1 |
| | | | Screw, Pan Hd., 3x6 B-tight | 1 |
| 39 | | R-377070 | Bushing, AC cord | 1 |
| 28 | | R-1272789 | Shield case | 1 |
| | | | Screw, Pan Hd. with spring washer 3x8 | 2 |
| | | | Nut, with washer M3 | 2 |
| 29 | | R-327491 | Fix plastic board, Power supply, Remocon P.C.B. | 7 |
| 30 | | R-3973955 | Fix plastic board, Main P.C.B. | 3 |
| 31 | | R-377095 | Fix plastic board, Power switch P.C.B. | 1 |
| | | | Screw, Pan Hd., 3.5x6 B-tight | 1 |
| | | | Screw, Pan Hd., 3x6 P-tight | 10 |
| | | R-437414 | Sheet | 2 |
| | | R-377064 | Holder | 1 |
| | | R-377065 | Holder | 1 |
| 32 | | R-377101 | Cover | 1 |
| **CHASSIS ELECTRICAL PARTS** | | | | |
| 33 | | R-4173028 | Printed circuit board, Function | 1/2 |
| 34 | | R-S47660 | Push switch, Function | 1 |
| 35 | | R-1272792 | Metal bracket, Function | 1 |
| | | | Screw, Pan Hd., 3x6, Function | 2 |
| | | | Screw, Pan Hd., 2.6x8 P-tight, Function | 2 |
| 36 | | R-4173030 | printed circuit board, LED-A | 1/2 |
| | | | Screw, Pan Hd., 2.6x8 P-tight, LED-A | 2 |
| | D21,22,23 24,25 | | LED, 26P251D, LED-A | 5 |
| 37 | | R-4173031 | Printed circuit board, LED-B | 1/4 |
| | | | Screw, Pan Hd., 2.6x8 P-tight, LED-B | 1 |
| | D20 | | LED, SLP151D, LED-B | 1 |
| | D26 | | LED, SLP252B04, Display P.C.B. | 1 |
| | D27,28,29 | | LED, SLP252B, Display P.C.B. | 3 |
| | CS13,18,22 | R-S27298-2 | Housing, 2P | 3 |
| | CS1,10 | R-S27298-3 | Housing, 3P | 2 |
| | CS6 | R-S27298-4 | Housing, 4P | 1 |
| | CS2,4,11 | R-S27298-5 | Housing, 5P | 3 |
| | CS3,15 | R-S27298-6 | Housing, 6P | 2 |
| | CS5,7,8,12 | R-S27298-7 | Housing, 7P | 4 |
| | CS17 | R-S27298-8 | Housing, 8P | 1 |
| | CS9 | R-S27298-9 | Housing, 9P | 1 |
| | CS8 | R-S27298-10 | Housing, 10P | 1 |
| | CS14,16 | R-S27298-11 | Housing, 11P | 2 |
| | | R-247755 | Terminal | 107 |
| | F6,8 | R-S17450 | Fuse, T400mA, Semko | 2 |
| | F7 | R-S17261 | Fuse, T315mA, Semko | 1 |
| | F4,5 | R-S17435 | Fuse, T160mA, Semko | 2 |
| | F2 | R-S17451 | Fuse, T200mA, Semko | 1 |
| | F3 | R-S17432 | Fuse, T4A, Semko | 1 |
| | F1 | R-S17450 | Fuse, T400mA, Semko | 1 |
| | | R-S37089-1 | AC cord | 1 |
| 38 | | R-W77989 | Power, transformer | 1 |
| 40 | | R-S27426 | AC outlet | 1 |
| | | | Screw, Pan Hd 2.6x8 P-tight, Tone P.C.B. | 2 |
| | | | Fiber washer 3x6x1t, Tone P.C.B. | 1 |
| | | | Screw, Pan Hd 2.6x8 P-tight, Keyboard P.C.B. | 3 |
| | | | Screw, pan Hd 3x6 P-tight, power supply, Remocon, Main P.C.B. | 10 |
| **MAIN P.C.B. ASSEMBLY** | | | | |
| 41 | | R-A75448 | Circuit board assembly, Main | 1 |
| | CP13,22 | R-S27207-2 | Plug, 2P | 2 |
| | CP10 | R-S27207-3 | Plug, 3P | 1 |
| | CP6 | R-S27207-4 | Plug, 4P | 1 |
| | CP11 | R-S27207-5 | Plug, 5P | 1 |
| | CP15 | R-S27207-6 | Plug, 6P | 1 |
| | CP5,7,8,12 | R-S27207-7 | Plug, 7P | 4 |
| | CP17 | R-S27207-8 | Plug, 8P | 1 |
| | CP9 | R-S27207-9 | Plug, 9P | 1 |
| | CP8 | R-S27207-10 | Plug, 10P | 1 |
| | CP14,16 | R-S27207-11 | Plug, 11P | 1 |
| | RY1 | R-S47588 | Relay | 1 |
| | RY2 | R-S47604 | Relay | 1 |
| 60 | | R-S17396-1 | Terminal board | 3 |
| | | | **SEMICONDUCTORS** | |
| | IC12,13 | | Integrated circuit, HA1457W | 2 |
| | IC11 | | Integrated circuit, TC4013 | 1 |
| | Q308,408 | | Transistor, 2SC2362 | 2 |
| | Q309,409 | | Transistor, 2SA1016 | 2 |
| | Q304,404 | | Transistor, 2SA929 | 2 |
| | Q302,303,305,306,307, 402,404,405,406,407 | | Transistor, 2SC1570 | 10 |
| | Q14 | | Transistor, 2SA608 | 1 |
| | Q13,15,16,17,19 | | Transistor, 2SC536 | 5 |
| | Q18 | | Transistor, 2SC1645 | 1 |
| | Q301,401 | | FET, 2SK147 | 2 |
| | D8,9,11,12,13,14,15,31 | | Diode, 1S1588 | 8 |
| | D10 | | Diode, ITT73N | 1 |
| | | | **RESISTORS** | |
| | R369,469 | | Carbon, 56 ohm, ±5%, 1/4W | 2 |
| | R302,345,356,357,402, 445,456,457 | | Carbon, 100 ohm, ±5%, 1/4W | 8 |
| | R91 | | Carbon, 470 ohm, ±5%, 1/4W | 1 |
| | R93,94,95,96,307,312, 407,412 | | Carbon, 560 ohm, ±5%, 1/4W | 8 |
| | R358,458 | | Carbon, 680 ohm, ±5%, 1/4W | 2 |
| | R333,433 | | Carbon, 820 ohm, ±5%, 1/4W | 2 |
| | R77,318,323,326,330, 335,418,423,426,430, 435 | | Carbon, 1 k ohm, ±5%, 1/4W | 11 |
| | R92 | | 1.2 k ohm, ±5%, 1/4W | 1 |
| | R309,339,348,409,439,448 | | Carbon, 2.2 k ohm, ±5%, 1/4W | 6 |
| | R367,467 | | Carbon, 4.7 k ohm, ±5%, 1/4W | 2 |
| | R86,88,90,321,328,346, 421,428,446 | | Carbon, 6.8 k ohm, ±5%, 1/4W | 9 |
| | R368,468 | | Carbon, 8.2 k ohm, ±5%, 1/4W | 2 |
| | R71,79,340,440 | | Carbon, 10 k ohm, ±5%, 1/4W | 4 |
| | R338,438 | | Carbon, 15 k ohm, ±5%, 1/4W | 2 |
| | R343,443 | | Carbon, 18 k ohm, ±5%, 1/4W | 2 |
| | R58,334,354,434,454 | | Carbon, 22 k ohm, ±5%, 1/4W | 5 |
| | R337,351,437,451 | | Carbon, 47 k ohm, ±5%, 1/4W | 4 |
| | R56,306,317,324,406, 417,424 | | Carbon, 56 k ohm, ±5%, 1/4W | 7 |
| | R341,441 | | Carbon, 82 k ohm, ±5%, 1/4W | 2 |
| | R54,76,78,80,81,82,83,84, 85,87,89,99,100,101,102, 314,315,316,322,329,336, 347,359,414,415,416,422, 429,436,447,459 | | Carbon, 100 k ohm, ±5%, 1/4W | 31 |
| | R344,444 | | Carbon, 120 k ohm, ±5%, 1/4W | 2 |
| | R57,353,355,453,455 | | Carbon, 220 k ohm, ±5%, 1/4W | 5 |
| | R331,332,431,432 | | Carbon, 330 k ohm, ±5%, 1/4W | 4 |
| | R342,442 | | Carbon, 390 k ohm, ±5%, 1/4W | 2 |
| | R60,61,319,325,350,352, 419,425,450,452 | | Carbon, 470 k ohm, ±5%, 1/4W | 10 |
| | R349,449 | | Carbon, 560 k ohm, ±5%, 1/4W | 2 |
| | R320,327,420,427 | | Carbon, 820 k ohm, ±5%, 1/4W | 4 |
| | R303,403 | | Metal film, 10 ohm, ±1%, 1/4W | 2 |
| | R301,401 | | Metal film, 22 ohm, ±1%, 1/4W | 2 |
| | R313,413 | | Metal film, 820 ohm, ±1%, 1/4W | 2 |
| | R305,405 | | Metal film, 1.8 k ohm, ±1%, 1/4W | 2 |
| | R310,410 | | Metal film, 39 k ohm, ±1%, 1/4W | 2 |
| | R311,411 | | Metal film, 510 k ohm, ±1%, 1/4W | 2 |
| | R304,404 | | Metal film, 1.8 k ohm, ±1%, 1/2W | 2 |
| | R72,73,74,75,97,98,308,408 | | Fuse, 100 ohm, ±2%, 1/4W | 8 |
| | R55 | | Fuse, 33 ohm, ±2%, 1/4W | 1 |
| | | | **CAPACITORS** | |
| | C306,323,324,406,423,424 | | Ceramic, 22 pF, ±5%, 50V, SL | 6 |
| | C329,429 | | Ceramic, 27 pF, ±5%, 50V, SL | 2 |

NOTES : 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

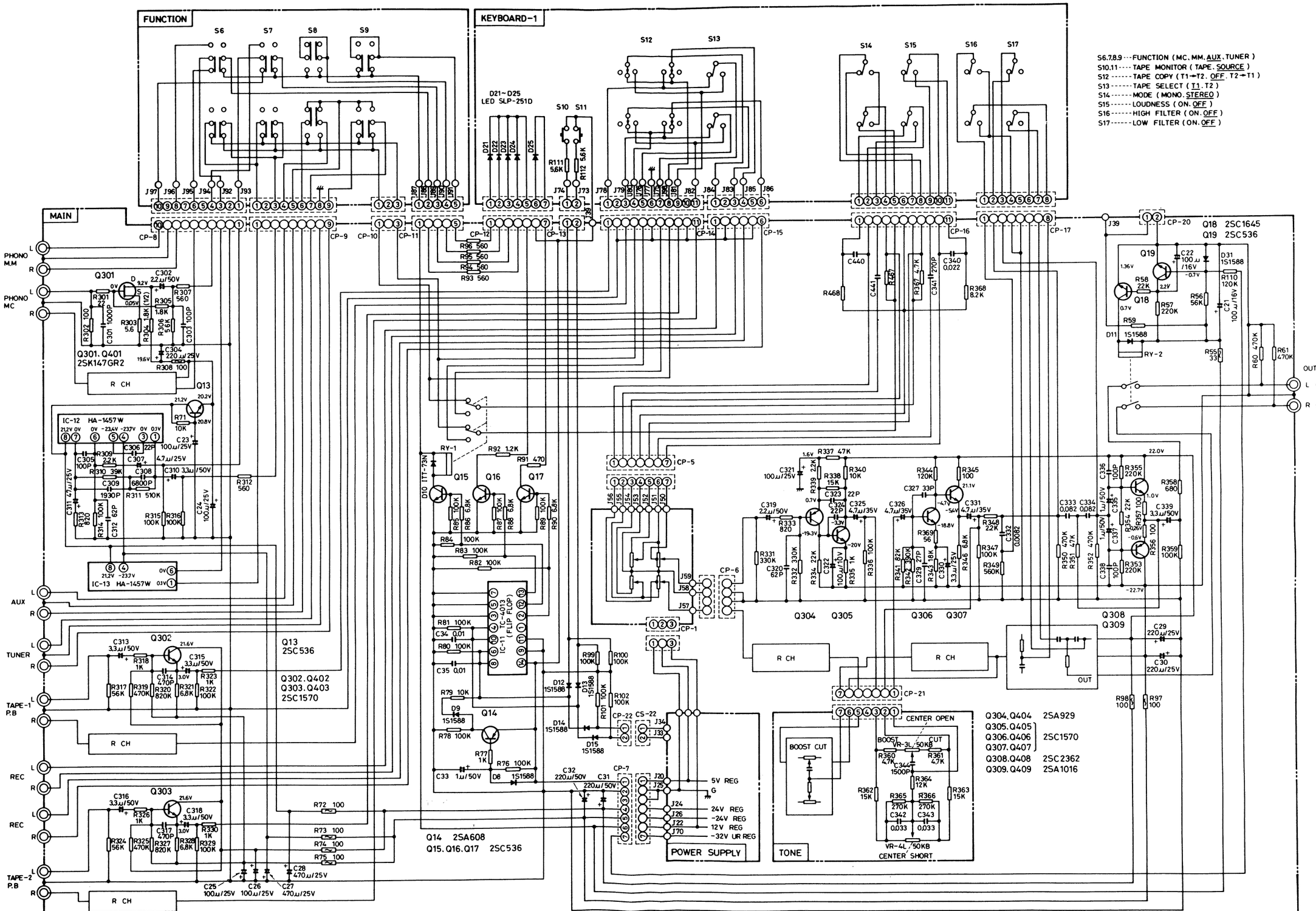


## PARTS LIST

| Key No. | Ref.No. | PARTS No. | DESCRIPTION | Q'ty |
|---|---|---|---|---|
| | C327,427 | | Ceramic, 33 pF, ±5%, 50V, SL | 2 |
| | C312,320,412,420 | | Ceramic, 62 pF, ±5%, 50V, SL | 4 |
| | C303,305,336,338,403, 405,436,438 | | Ceramic, 100 pF, ±5%, 50V, SL | 6 |
| | C314,317,414,417 | | Ceramic, 470 pF, ±10%, 50V, SB | 6 |
| | C301,401 | | Ceramic, 0.001 mfd, ±10%, 50V, SD | 2 |
| | C34,35 | | Ceramic, 0.01 mfd, 50V, X | 2 |
| | C332,432 | | Mylar, 0.0082 mfd, ±5%, 50V | 2 |
| | C340,440 | | Mylar, 0.022 mfd, ±5%, 50V | 2 |
| | C333,334,433,434 | | Mylar, 0.082 mfd, ±5%, 50V | 4 |
| | C341,441 | | Styrol, 270 pF, ±5%, 50V | 2 |
| | C309,409 | | Styrol, 1930 pF, ±2%, 50V | 2 |
| | C308,408 | | Polypropylen, 6800 pF, ±2%, 50V | 2 |
| | C33 | | Electrolytic, 1 μF/50V | 1 |
| | C29,30,304,404 | | Electrolytic, 220 μF/25V | 4 |
| | C23,24,25,26,321,421 | | Electrolytic, 100 μF/25V | 6 |
| | C311,411 | | Electrolytic, 47 μF/25V | 2 |
| | C27,28 | | Electrolytic, 330 μF/25V | 2 |
| | C322,422 | | Electrolytic, 100 μF/10V | 2 |
| | C330,430 | | Electrolytic, 3.3 μF/35V | 2 |
| | C21,22 | | Electrolytic, 100 μF/16V | 2 |
| | C31,32 | | Electrolytic, 220 μF/50V | 2 |
| | C302,319,402,419 | | Electrolytic, 2.2 μF/50V | 4 |
| | C325,326,331,425,426,431 | | Electrolytic, 4.7 μF/35V | 6 |
| | C335,337,435,437 | | Electrolytic, 1 μF/50V | 4 |
| | C310,313,315,316,318, 339,410,413,415,416, 418 439 | | Electrolytic, 3.3 μF/50V | 12 |
| | C307,407 | | Electrolytic, 4.7 μF/25V Tantal | 2 |
| **REMOTE CONTROL P.C.B. ASSEMBLY** | | | | |
| 42 | | R-A75449 | Circuit board assembly, Remote control | 1 |
| 43 | VR1 | R-R1167336 | Remocon VR | 1 |
| 44 | VR2 | R-R1167338 | Remocon VR | 1 |
| | CP18 | R-S27207-2 | Plug, 2P | 1 |
| | CP1 | R-S27207-3 | Plug, 3P | 1 |
| | CP2,4 | R-S27207-5 | Plug, 5P | 2 |
| | CP3 | R-S27207-6 | Plug, 6P | 1 |
| | L1,2 | R-W17051 | Choke coil | 2 |
| | | | **SEMICONDUCTORS** | |
| | Q1,2,3,4 | | Transistor, 2SC536 | 4 |
| | Q7,8,11,12 | | Transistor, 2SD734 | 4 |
| | Q5,6,9,10 | | Transistor, 2SB698 | 4 |
| | D3,4,5,6 | | Diode, DS135 | 4 |
| | IC7 | | Integrated circuit, TC4081 | 1 |
| | IC6 | | Integrated circuit, TC4069 | 1 |
| | IC5 | | Integrated circuit, TC4071 | 1 |
| | | | **CAPACITORS** | |
| | C13 | | Electrolytic, 47 μF/16V | 1 |
| | C16,17,18,19 | | Ceramic, 220 pF, ±10%, 50V, SB | 4 |
| | C14 | | Ceramic, 0.01 mfd, ±20%, 25V, X | 1 |
| | | | **RESISTORS** | |
| | R29 | | Carbon, 560 ohm, ±5%, 1/4W | 1 |
| | R17,18,19,20,23,24,27,28 | | Carbon, 1.8 k ohm, ±5%, 1/4W | 8 |
| | R2,3,4,5 | | Carbon, 5.6 k ohm, ±5%, 1/4W | 4 |
| | R9,10,11,12,13,14,15,16, 21,22,25,26 | | Carbon, 10 k ohm, ±5%, 1/4W | 8 |
| | R103,104,105,106 | | Carbon, 100 k ohm, ±5%, 1/4W | 4 |
| | R6,7,8 | | Block, 100 k ohm, ±10%, 1/8W | 3 |
| **DISPLAY P.C.B. ASSEMBLY** | | | | |
| 45 | | R-A75450 | Circuit board assembly, Display | 1 |
| | SVR1,2 | R-R110705 | Preset resistor, 50 k | 2 |
| | SVR3 | R-R110723 | Preset resistor, 100 k | 1 |
| | | | **SEMICONDUCTORS** | |
| | IC9,10 | | Integrated circuit, M51903L | 2 |
| | IC8 | | Integrated circuit, M51901P | 1 |
| | D7 | | Zener diode, HZ3C | 1 |
| | | | **CAPACITORS** | |
| | C15 | | Electrolytic, 10 μF/16V | 1 |
| | | | **RESISTORS** | |
| | R40 | | Carbon, 470 ohm, ±5%, 1/4W | 1 |
| | R41,42,43,44,45,46,47, | | Carbon, 820 ohm, ±5%, 1/4W | 10 |
| | 48,49,50 | | | |
| | R34,39 | | Carbon, 1 k, ±5%, 1/4W | 2 |
| | R33,35 | | Carbon, 12 k, ±5%, 1/4W | 2 |
| | R32 | | Carbon, 33 k, ±5%, 1/4W | 1 |
| | R36,37 | | Carbon, 39 k, ±5%, 1/4W | 2 |
| | R38 | | Carbon, 47 k, ±5%, 1/4W | 1 |
| | R31 | | Solid, 10 ohm, ±10%, 1/2W | 1 |
| **KEYBOARD P.C.B. ASSEMBLY** | | | | |
| 46 | | R-A75451 | Circuit board assembly, Keyboard | 1 |
| 47 | S2,3,4,5, 10,11 | R-S47616-2 | Tact switch | 6 |
| 48 | S14,15, 16,17 | R-S47630 | Push switch | 4 |
| 49 | S13 | R-S47634-1 | Slide switch | 1 |
| 50 | S12 | R-S47635-1 | Slide switch | 1 |
| 51 | VR3 | R-R130730 | Slide VR | 1 |
| 52 | VR4 | R-R130731 | Slide VR | 1 |
| 53 | | R-1272791 | Metal bracket | 1 |
| | | | Screw, Pan Hd., 2x2 | 2 |
| | | | **RESISTORS** | |
| | R51,52,53,54,111,112 | | Carbon, 5.6 k ohm, ±5%, 1/4W | 6 |
| **TONE P.C.B. ASSEMBLY** | | | | |
| 54 | | R-A75452 | Circuit board assembly, Tone | 1 |
| | | | **RESISTORS** | |
| | R362,363,462,463 | | Carbon, 15 k ohm, ±5%, 1/4W | 4 |
| | R364,464 | | Carbon, 12 k ohm, ±5%, 1/4W | 2 |
| | R360,361,460,461 | | Carbon, 4.7 k ohm, ±5%, 1/4W | 4 |
| | R365,366,465,466 | | Carbon, 270 k ohm, ±5%, 1/4W | 4 |
| | | | **CAPACITORS** | |
| | C342,343,442,443 | | Mylar, 0.033 μF, ±5%, 50V | 4 |
| | C344,444 | | Polypropylen, 1500 pF, ±5%, 50V | 2 |
| **POWER SUPPLY P.C.B. ASSEMBLY** | | | | |
| 55 | | R-A75453 | Circuit board asssembly, Power supply | 1 |
| | | R-S17024 | Fuse, clip | 16 |
| 56 | | R-S27332 | DIN socket, 8P | 1 |
| | | R-237188 | Eyelet lug | 8 |
| 57 | | R-2672757 | Heat sink | 1 |
| | | | Screw, Pan Hd., 3x8 | 4 |
| | | | Nut, Hex Hd., M3 | 4 |
| | | | Screw, Pan Hd., 3x6, B-tight | 1 |
| | | | Nut, Hex Hd. with Washer, M3 | 1 |
| | | | Bush | 4 |
| | | | Mylar sheet, 1S313B | 4 |
| | | | **SEMICONDUCTORS** | |
| | D16 | | Diode, 1S135 | 1 |
| | D1,2 | | Diode, RB152 | 2 |
| | IC1 | | Integrated circuit, FS7805M | 1 |
| | IC2 | | Integrated circuit, FS7812M | 1 |
| | IC3 | | Integrated circuit, FS7824C | 1 |
| | IC4 | | Integrated circuit, FS7924C | 1 |
| | | | **RESISTORS** | |
| | R1 | | Fuse, 10 ohm, ±2%, 1/4W | 1 |
| | | | **CAPACITORS** | |
| | C2 | | Ceramic, 4700 pF, 400V, SH (X) | 1 |
| | C6 | | Electrolytic, 1000 μF/35V | 1 |
| | C10,11 | | Electrolytic, 10 μF/10V | 2 |
| | C7 | | Electrolytic, 1000 μF/16V | 1 |
| | C8,9 | | Electrolytic, 10 μF/50V | 2 |
| | C4,5 | | Electrolytic, 330 μF/50V | 2 |
| | C12 | | Electrolytic, 0.47 μF/50V | 1 |
| **POWER SWITCH P.C.B. ASSEMBLY** | | | | |
| 58 | | R-A75454 | Circuit board assembly, Power switch | 1 |
| | | R-237188 | Eyelet lug | 5 |
| 59 | | R-S47655 | Push switch | 1 |
| | | | **CAPACITORS** | |
| | C1 | | Ceramic, 4700 pF, 400V, HS (X) | 1 |

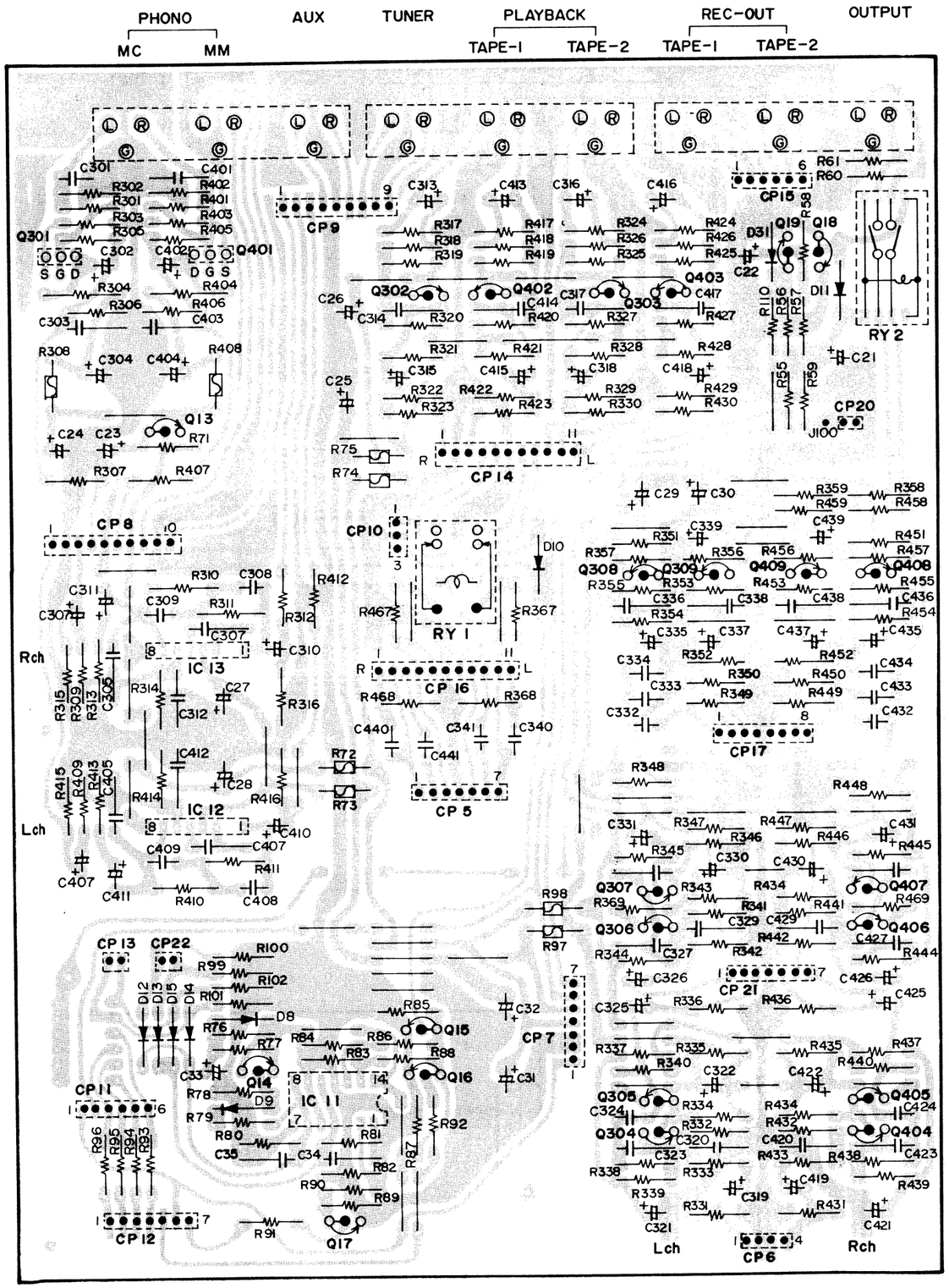
NOTES : 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

## SCHEMATIC DIAGRAM



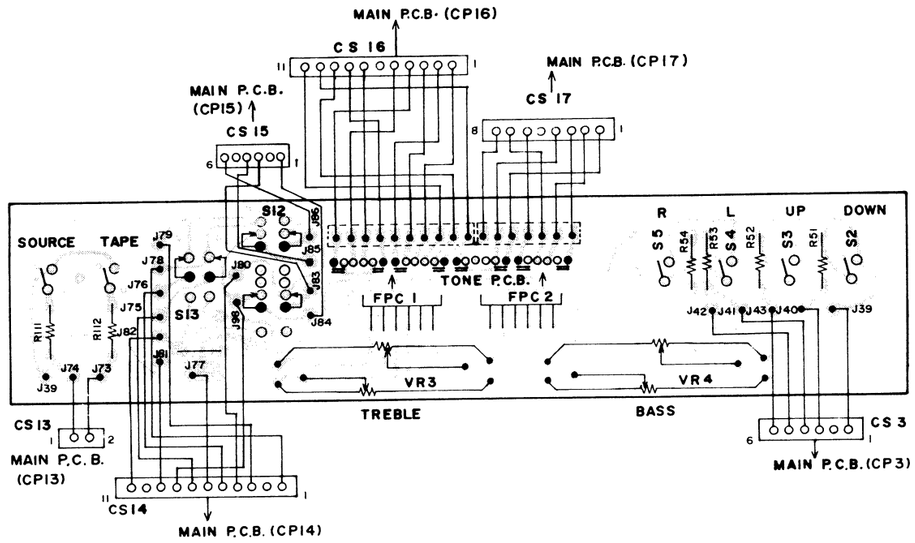
## WIRING DIAGRAM

### MAIN P.C.B. Bottom

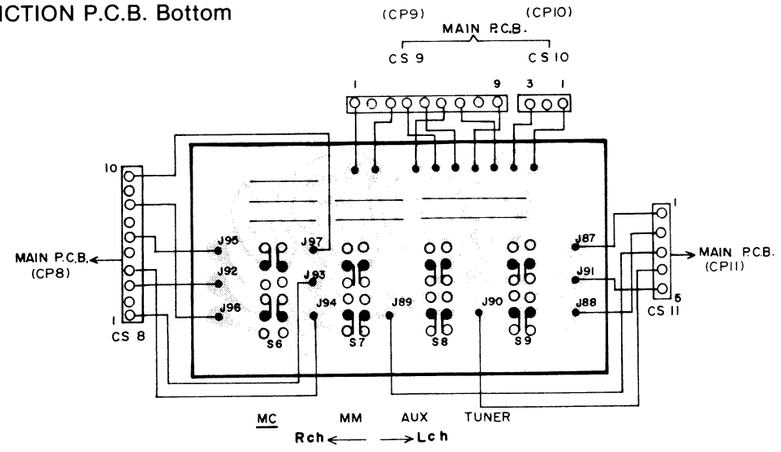




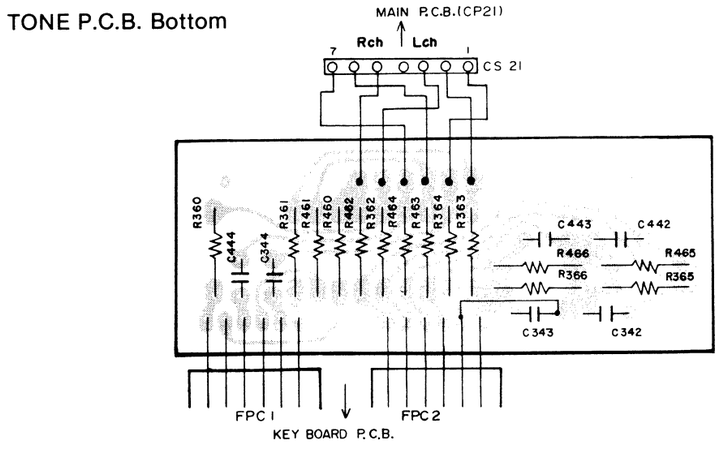

### KEY BOARD P.C.B. Bottom



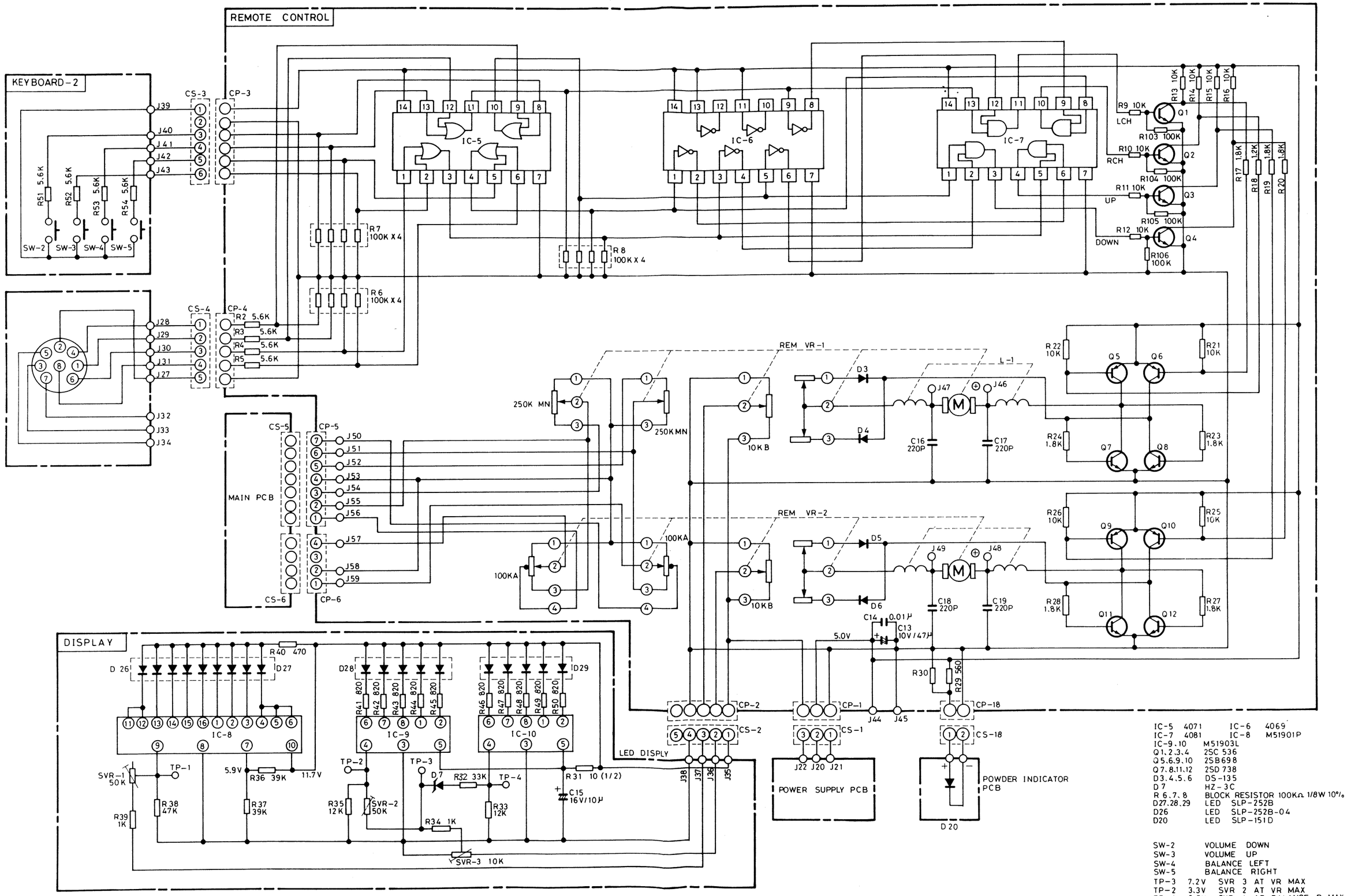

### FUNCTION P.C.B. Bottom




### TONE P.C.B. Bottom



## SCHEMATIC DIAGRAM

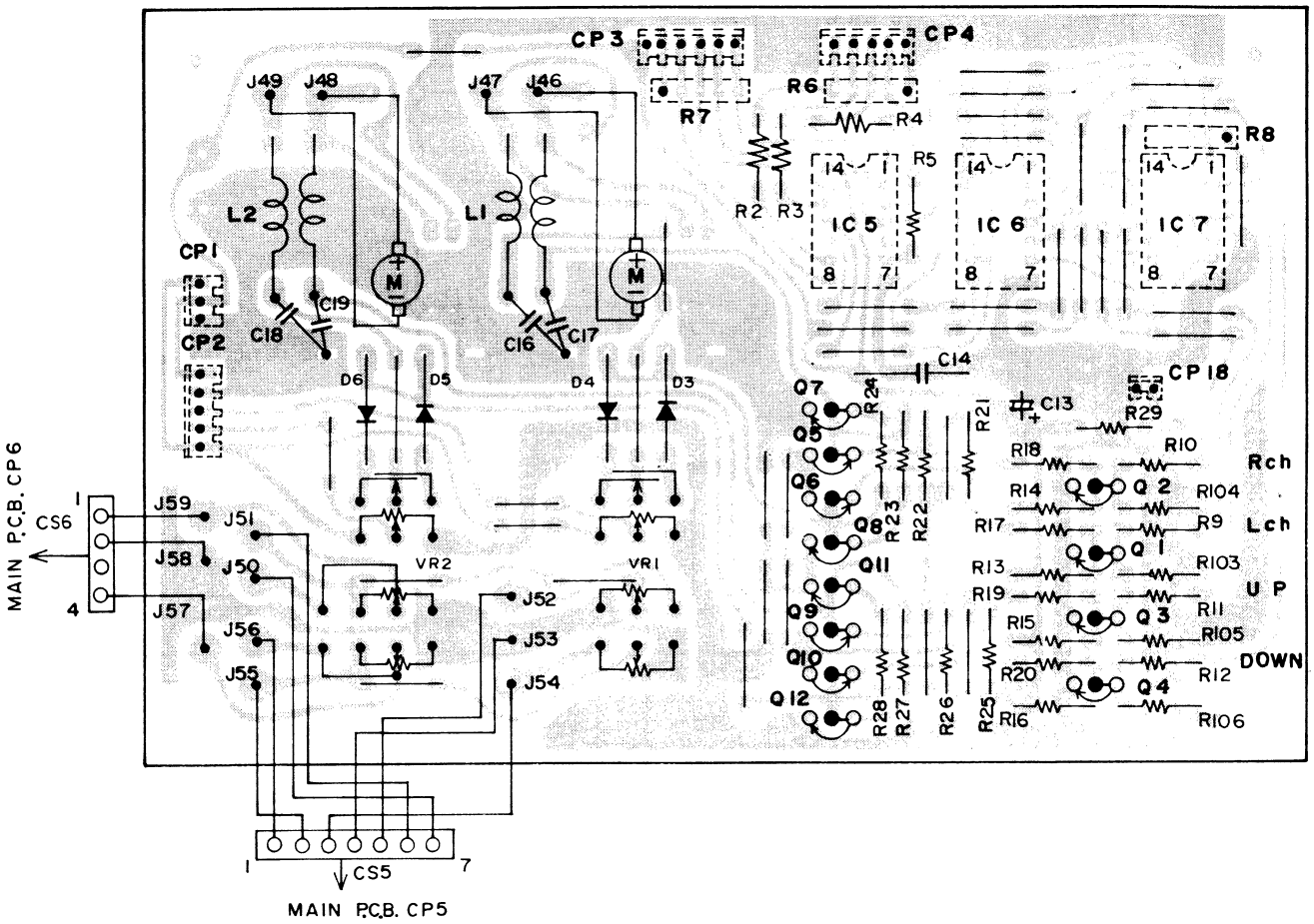



IC-5 4071 IC-6 4069
IC-7 4081 IC-8 M51901P
IC-9.10 M51903L
Q1.2.3.4 2SC 536
Q5.6.9.10 2SB698
Q7.8.11.12 2SD 738
D3.4.5.6 DS-135
D 7 HZ-3C
R 6.7.8 BLOCK RESISTOR 100KΩ 1/8W 10%
D27.28.29 LED SLP-252B
D26 LED SLP-252B-04
D20 LED SLP-151D

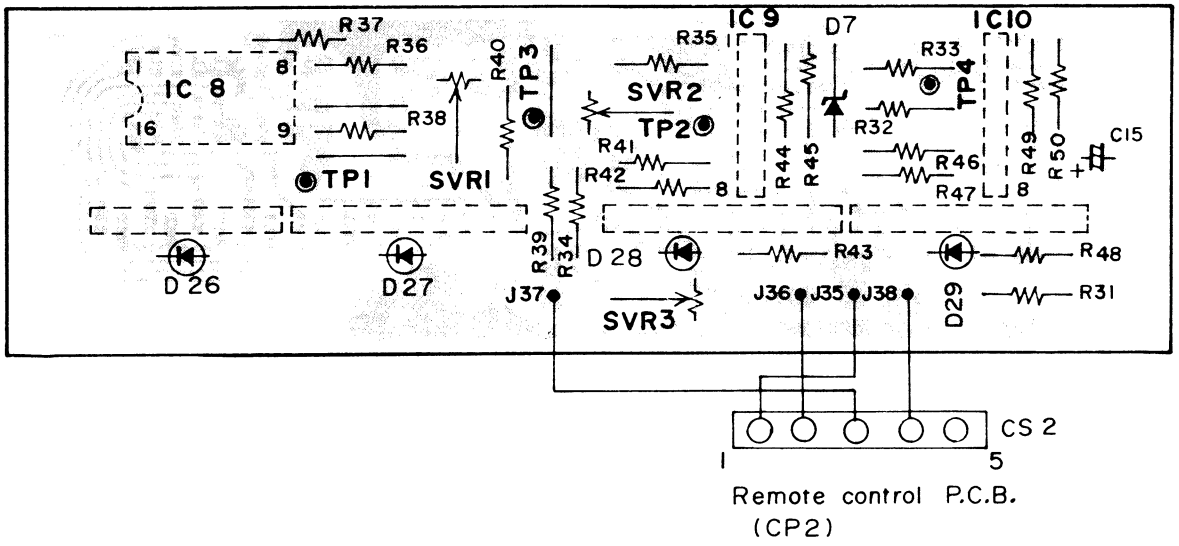
SW-2 VOLUME DOWN
SW-3 VOLUME UP
SW-4 BALANCE LEFT
SW-5 BALANCE RIGHT
TP-3 7.2V SVR 3 AT VR MAX
TP-2 3.3V SVR 2 AT VR MAX
TP-1 6.7V SVR 1 AT BALANCE R MAX

## WIRING DIAGRAM

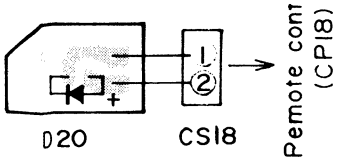
REMOTE CONTROL P.C.B. Bottom



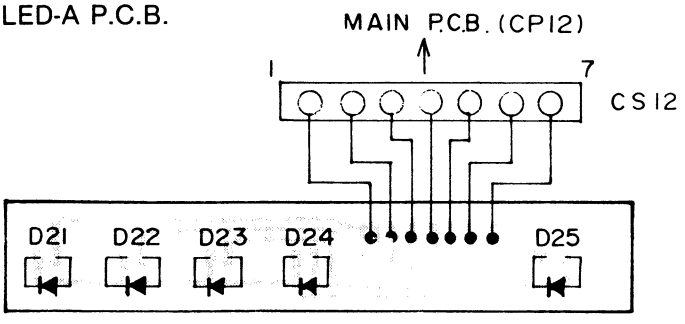

DISPLAY P.C.B. Bottom



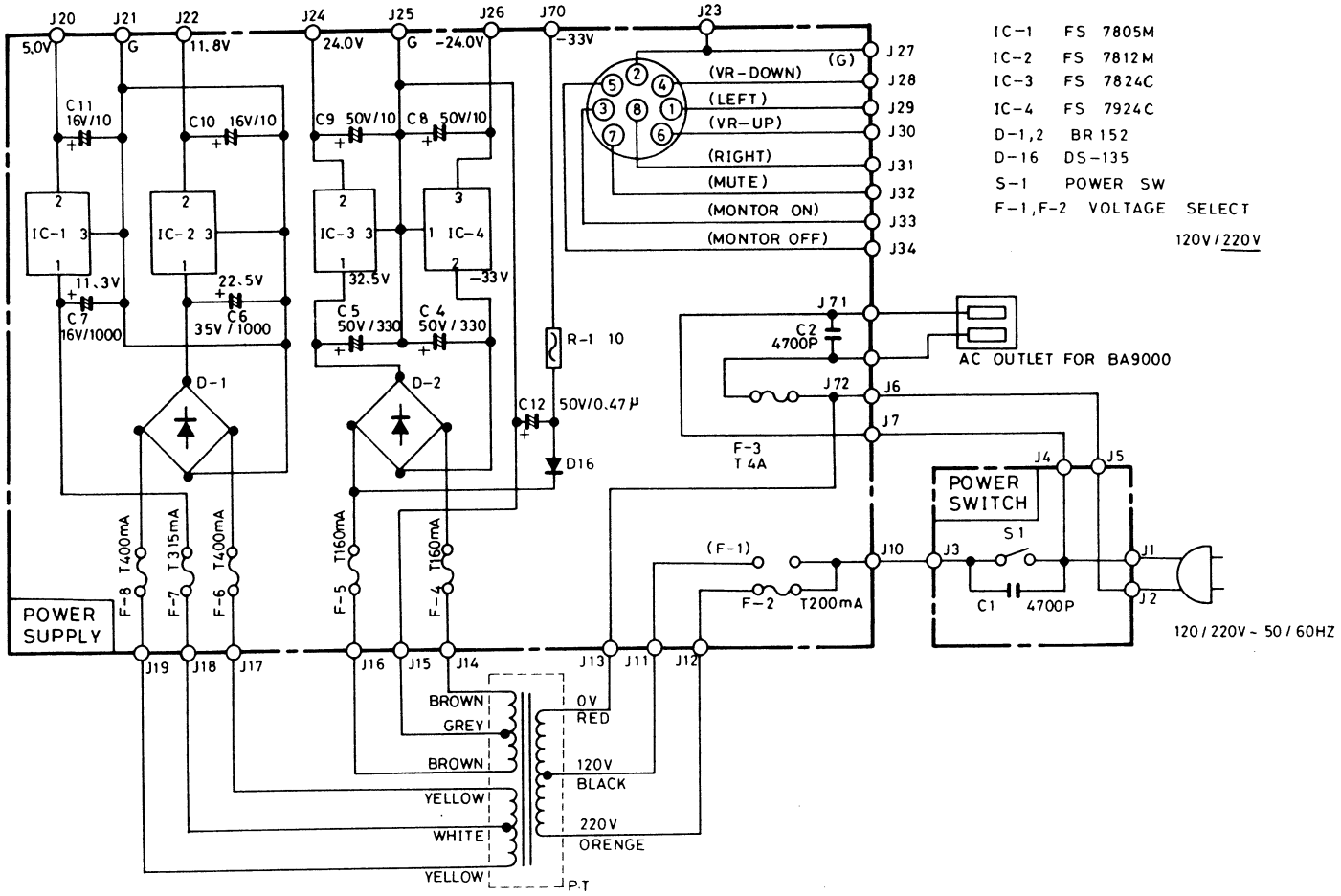

LED-B P.C.B.




LED-A P.C.B.

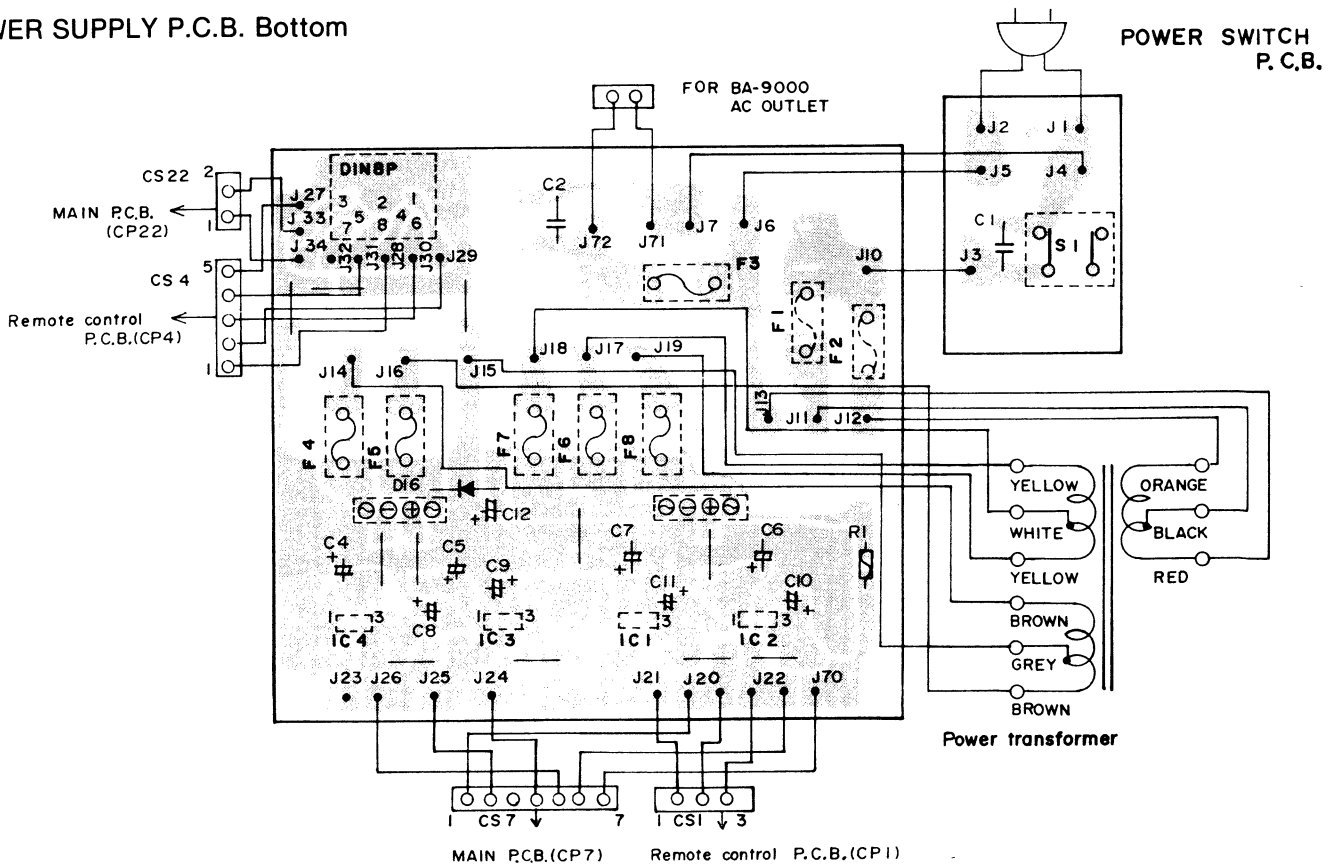


## SCHEMATIC DIAGRAM




## WIRING DIAGRAM

POWER SUPPLY P.C.B. Bottom



## EXPLODED VIEW